

Notice of Allowability

Application No.

10/600,857

Examiner

Binh C. Tat

Applicant(s)

KONG ET AL.

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 09/20/04.
2. ☒ The allowed claim(s) is/are 1-5,8-18 and 21-29.
3. ☒ The drawings filed on 19 June 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

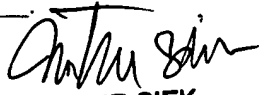
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


VUTHE SIEK
PRIMARY EXAMINER

DETAILED ACTION

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Kim Kanzaki on 09/27/04.

The application has been amended as follow:

Claim 28 line 10 delete "using" insert --being ratio of--.

Claims 30-43 have been canceled.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-29 drawn to routing, classified in class 716, subclass 12.
- II. Claims 30-43 drawn to detailed routing, classified in class 716, subclass 14.

Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the routing in group I does not need the design detail routing in group II and the design detail routing in group II can be used in other applications.

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Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Kim Kanzaki on 09/27/04 ^{an} ~~a~~ provisional election was made without traverse to prosecute the invention of group I, claims 1-29. *claims 30-43 have been canceled as non-elected claims.*

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

1. Claims 1-5, 8-18, and 21-29 are allowed because the prior art does not teach or suggest a method for calculating a future cost for use in routing an integrated circuit, the conductors in the integrated circuit being modeled by a plurality of nodes and at least one source node, the method comprising: obtaining a first node from the plurality of nodes; obtaining a second node that can be electrically connected to the first node; determining a cumulative routing cost of the second node; calculating a first distance between the second node and the source node, wherein first distance is less than a predetermined value; and setting the future cost equal to the cumulative routing cost if there is no existing future cost that corresponds to the distance or if the cumulative routing cost is less than the existing future cost corresponding to the distance; and calculating a first cost slope as a function of the cumulative routing cost divided by the first distance and recording the first cost slope in a memory location for use as a future cost value associated with a first predetermined maximum distance.

2. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

Conclusion


3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh Tat whose telephone number is (703) 305-4855. The examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

4. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Tat Binh

Patent Examiner

September 29, 2004


VUTHE SIEK
PRIMARY EXAMINER